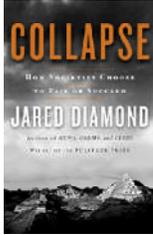


## The Earth as a Polder

*Bikram Phookun*



*Collapse*  
**Jared Diamond**  
 Viking Press, 2005  
 pp. 592 Price: ₹399/-

Will over-exploitation and global warming end – or severely reduce – life on earth? That is the big question of our age. Though the fear of an apocalyptic end has no doubt been part of the lore of every civilization in every age, the last fifty years has perhaps been the first age to confront a real fear of extinction. Between the 1950s and 1980s the world was constantly in danger of a nuclear conflagration. Now for the first time it seems possible that the resources of the earth as a whole will be exhausted, in the same way as it was in the Indus Valley Civilization or the Mayan Civilization. Only, this time, there will be nowhere to go.

What makes today's threat especially piquant is that this age is also the first to believe that a certain kind of life – let us call it the good life – is the just and honourable aspiration of every human being. The good life is a life far removed from its animal roots: for the good life we must have convenience, comfort, and complexity, in ever-increasing measure, and to achieve these goals we bind ourselves into patterns of living that bring our end closer

than it needs to be. The tragedy of mankind is that its conception of development contradicts its dream of sustainability. There are two major reasons for this contradiction: first, a temporal incoherence – what is good for today is not necessarily good for tomorrow; and second, a spatial incoherence – what is good for ourselves is usually not good for others.

There is temporal incoherence because we cannot foretell the consequences of all our actions, and because even when we can, we find ourselves unable to correct them. When the automobile was invented at the beginning of the 20th century, it was a miraculous improvement on the horse-drawn carriage. No one foresaw its virus-like spread. Today, one century later, we recognize that our fascination for this mode of transport comes at an enormous price, but we find ourselves unable to break free of the hold it has on us. What seemed like a great boon has bound us into a pattern of behaviour that may prove self-destructive.

Spatial incoherence is the result of the structures of power and privilege that arise naturally in human societies. Power begets power, and the powerful determine not just their own lives but also the lives of others. In the process they grab much more than their share of the available resources, insulate themselves from the consequences of their profligacy, and, most importantly, create paradigms of the good life that are inaccessible but that those left behind perpetually strive for. Thus as the West dominated and then left behind the rest



of the world, it created a kind of life that everyone aspired to. China and India and the rest of the developed world want, more than anything else, to live like America. Yet the harsh truth is that if China alone achieved an American standard of life, the world's consumption of material resources would double, and if the entire world achieved this goal consumption would go up by a factor of twelve. Not even the wildest optimist can argue that such an increase in consumption is sustainable.

Is the situation totally hopeless? Jared Diamond does not think so. In his magisterial book *Collapse: How Societies Choose to Fail or Survive*, Diamond offers us this hope: if we can learn to live as if the world were a polder, we may, just, survive. A polder is a Dutch lowland reclaimed from the sea, which is held back by dykes and pumps. Those in the polder, rich or poor, live in constant awareness of the sea. This awareness so completely permeates their lives that the runaway inequalities created by spatial incoherence and the future-forgetfulness created by temporal incoherence are mitigated. In a polder neither rich or poor, can afford to insulate themselves from the consequences of their actions; if through anyone's negligence the sea breaches the dykes they die together. And no one can afford to postpone until tomorrow what must be done today; the pumps must be switched on when they must be switched on. A thousand years of living in polders has engendered an environmental awareness in the Netherlands that, according to Diamond, is not matched by any

other country. His hope, in writing this book, is that the entire human race can see – or rather, feel in their bones, as the Dutch do – that faced with cataclysmic environmental degradation the whole earth is a polder.

Diamond does not point fingers very often, and in fact seems almost unwilling to apportion responsibility. Perhaps he is not political enough, or perhaps he feels that a political approach to the problem would end up being past-centred and miss the point, which is – how do we correct our behaviour before it is too late? He chooses to make his point otherwise.

*Collapse* is a suite of case-studies, several of well-defined societies of the past that suffered utter collapse for environment-related reasons, a few of modern societies in various stages of environmental degradation, and a couple of seriously endangered societies that have, through timely action, survived and continue to flourish. The two major case studies are of modern-day Montana, a beautiful, little-populated but over-exploited state in north-western United States, and of the Norse settlement in Greenland, which began in AD 984 and collapsed suddenly four hundred years later. The other extinct societies that Diamond studies are Easter Island, Pitcairn and Henderson Islands, in the Pacific Ocean, the Anasazi settlement in south-western US, and the Mayan civilization in central America. The modern societies other than Montana included in the book are Rwanda, the Dominican Republic and Haiti, China, and Australia. The societies that lived through potential

disaster and flourished are Tikopia, Japan, and Iceland.

Diamond examines each of these from several angles: how fragile or resilient the terrain and its flora and fauna prove to be against human exploitation; climate change due to a variety of factors, including global warming; change in relations with neighbours, and response to change. Poisons leaked by mining; salinization of land and underground water sources as a result of improper use of water; logging and its consequences; how volcanic eruptions help enrich the soil; why volcanic soils are less resilient than glacial soils; how controlling forest fires can worsen them; the unforeseen consequences of introducing new species of plants and animals into a terrain; depletion of soil quality; changing air quality; what precautions need to be taken when drilling for oil; the different visions and desires of old and new inhabitants; how the oceans are being depleted and marine life poisoned; what happens if you live in Greenland and refuse to eat fish; culturally-conditioned responses to change that may be completely inappropriate; overpopulation; correlation between political and environmental hotspots; how different groups can respond differently to the same circumstances, one surviving and the other dying out; how a single powerful ruler or new policy can completely change the trajectory of a society – the range of Diamond's expertise is astonishing, indeed mind-boggling. For each of the societies that collapsed, he traces the trajectory of its downfall, detailing every geographical and cultural factor that contrib-

uted. Seen against these past examples, it becomes clear that the modern societies he studies are in severe danger, with some, like China, rushing headlong into disaster. He marshals his arguments with a sureness of understanding and a quiet conviction that are difficult to argue with.

One of the most poignant stories Diamond tells is of Iceland. When the Vikings first arrived there from northern Europe they saw a land very similar to the one they had left behind. They cut down the trees and grazed their animals. But soon they realized that something terrible was happening – the pastures would not regenerate. How could they have known that the topsoil in Iceland was formed by the deposition of volcanic ash over millions of years? Once the covering of grass and trees was removed, the soil crumbled and was blown away. In northern Europe, on the other hand, glaciers pulverized rocks to produce a clayey topsoil that was far more resilient to deforestation. When the Icelandic people realized their mistake, they took steps to arrest further depletion of the soil; though the original forests were never recreated, and Iceland remains to this day a kind of desert, the settlers were able to create a prosperous and sustainable society.

The motif of timely action recurs through Diamond's book. He is after all an optimist. Two other striking examples of timely action that he offers are the sudden arrest of deforestation in Japan, and the banishing of pigs from the island of Tikopia. Following a period of excessive deforestation, the shoguns of Japan



put in place, more than *three hundred years ago*, a system of wood management and control that virtually stopped the destruction of Japan's own forests. As a result today almost 80% of Japan's area is sparsely-populated forested mountains. (It must be added, however, that Japan is one of the biggest importers of wood, and contributes egregiously to deforestation in the rest of the world.) Tikopia pigs were symbols of status and wealth, but they proved extremely destructive to the environment (very much like cars today). About four hundred years ago, the inhabitants of the island took the momentous decision to do away with all their pigs, and get their protein from other sources. Everything about life in tiny Tikopia, in fact – the way the population has learnt to control itself, the way soil has been managed to use it to the fullest without depleting it – is a lesson in how one can manage one's resources and live within one's means.

Living within our means is ultimately the biggest lesson that we need to learn as we pit development against sustainability. Diamond does not discuss India very much, but he devotes a whole chapter to China, which he calls a "lurching giant". The developing world's goal of a western lifestyle, he makes it quite clear, is beyond the means of the earth. He does not offer a solution to this problem – though it is obvious that a scaling down of material desires the world over is a must. Another very important point Diamond makes is that poor management of resources is often more destructive than their use. The two clas-

sic examples are forests and oceans, which are potentially endless sources, so long as they are used wisely.

Diamond's case studies are of course of relatively small societies within the earth. But what of the earth as a whole? Is it possible that his arguments cannot be scaled to the earth – that the resources and resilience of the earth are too vast to be depleted by humans? Will technology make up for our failings? All the gloom-and-doom predictions of the past have proven false; why should this one be true? Diamond goes through each of the denials that are commonly to be heard, and convinces us that the situation has finally reached a breaking point. If we – the entire human race – do not take matters in hand and change our behaviour immediately, there appears to be little doubt that a catastrophic collapse – of the kind that took place in Easter Island and in Greenland for the Norse, but this time for the whole earth – will happen in the not too distant future. Diamond believes that the world is too interconnected for the rich and powerful to immune themselves forever while many suffer. One example he provides of this interconnectedness: industrial wastes in the developed world are absorbed by marine life, disseminated through the oceans, and passed up the food chain to the seals and birds eaten by the Inuits in remote Greenland and the Arctic, poisoning their blood and mother's milk and causing severe health problems.

Diamond would like us to understand that the world is a polder, and if we don't recognize that and learn to live within our means, we

will drown together. Though one hopes with Diamond, there is little evidence that the polder mentality is in fact catching on; perhaps it arises more naturally over a thousand years of self-control than in the face of a crisis. In several of the societies that collapsed, the inequalities that precipitated their final crises persisted till the end. It is difficult to believe that the developed world, or the rich in the developing world, will wilfully scale down their lives so that the world as a whole can have a more realistic vision of the possibilities.

The most chilling chapter in *Collapse* is that on Rwanda. Diamond's re-telling of Rwanda's civil war and genocide in the the 90s as a Malthusian parable seems a terrifying preview of what can happen when overpopulation, inequality, and inadequacy of resources

push a people over the edge. Towards the end of the book, Diamond displays two maps of the world, one showing its political hot spots, chosen using political considerations alone, and another showing its environmental hot spots, chosen using environmental considerations alone; the coincidence is perfect.

Each one of Jared Diamond's major books – *Guns, Germs, and Steel*, and *The Rise and Fall of the Third Chimpanzee*, and *Collapse* – is a masterpiece of scientific writing: monumental in scope, profoundly thought-provoking, and difficult to put down. But *Collapse* is the one that most desperately needs to be read, and absorbed, by the powerful and the self-indulgent, and those who would change their ways.

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Bikram Phookun, St. Stephen's College, Delhi University, Delhi 110 007, India. Email: [bikram@ducos.ernet.in](mailto:bikram@ducos.ernet.in)

